CLAIMS

What is claimed is:

1. A communication system, comprising:

a beamformer that is adapted to provide a plurality of beams, each of the plurality of beams providing communication for a corresponding coverage envelope, the plurality of coverage envelopes comprising at least one pair of overlapping coverage envelopes and at least one pair of non-overlapping coverage envelopes; and

a scheduler that assigns system resources from a group of shared system resources to a plurality of receivers distributed throughout the coverage envelopes, the scheduler being adapted to assign the same system resources from the group of shared system resources for use during a simultaneous data transmission to a receiver in each of the coverage envelopes that comprises the at least one pair of non-overlapping coverage envelopes.

2. The communication system set forth in claim 1, wherein the communication system comprises a fixed beam network.

3. The communication system set forth in claim 1, wherein the group of shared system resources comprises a group of channelization codes.

4. The communication system set forth in claim 1, wherein the scheduler maintains a list of the group of shared system resources and updates the list as shared system resources are assigned to the plurality of receivers.

5. The communication system set forth in claim 1, comprising at least one antenna for transmitting communication signals to and receiving communication signals from the plurality of receivers.

6. The communication system set forth in claim 1, wherein the communication system comprises a cellular telephone base station.

7. The communication system set forth in claim 1, wherein the communication system comprises a code division multiple access (CDMA) cellular telephone base station.

8. The communication system set forth in claim 1, wherein the scheduler prioritizes the plurality of receivers based on at least one scheduling priority metric prior to assigning resources from the group of shared system resources.

9. A method of scheduling data transmissions in a communication system that has a group of shared system resources, the communication system being adapted to provide communication with a plurality of receivers, the method comprising the acts of:

providing a plurality of beams that each provide communication to a corresponding coverage envelope, the plurality of coverage envelopes comprising at

least one pair of overlapping coverage envelopes and at least one pair of non-overlapping coverage envelopes, the plurality of receivers being distributed throughout the plurality coverage envelopes; and

assigning the same system resources for use during a simultaneous data transmission to a receiver in each of the coverage envelopes that comprises the at least one pair of non-overlapping coverage envelopes.

10. The method set forth in claim 9, comprising the act of defining the plurality of beams to be fixed beams.

11. The method set forth in claim 9, comprising the act of defining a group of channelization codes to comprise the group of shared system resources.

12. The method set forth in claim 9, comprising the act of maintaining a list of the group of shared system resources.

13. The method set forth in claim 12, comprising the act of updating the list as shared system resources are assigned to the plurality of receivers.

14. The method set forth in claim 9, comprising the act of transmitting data to at least a subset of the plurality of receivers according to a code division multiple access (CDMA) communication protocol.

15. The method set forth in claim 9, comprising the act of prioritizing the plurality of receivers based on at least one scheduling priority metric prior to assigning resources from the group of shared system resources.

16. A communication system, comprising:

means for providing a plurality of beams, each of the plurality of beams providing communication for a corresponding coverage envelope, the plurality of coverage envelopes comprising at least one pair of overlapping coverage envelopes and at least one pair of non-overlapping coverage envelopes; and

means for assigning system resources from a group of shared system resources to a plurality of receivers distributed throughout the coverage envelopes, the means for assigning system resources being adapted to assign the same system resources from the group of shared system resources for use during a simultaneous data transmission to a receiver in each of the coverage envelopes that comprises the at least one pair of non-overlapping coverage envelopes.

17. The communication system set forth in claim 16, wherein the communication system comprises a fixed beam network.

18. The communication system set forth in claim 16, wherein the group of shared system resources comprises a group of channelization codes.

19. The communication system set forth in claim 16, wherein the means for assigning system resources maintains a list of the group of shared system resources and updates the list as shared system resources are assigned to the plurality of receivers.

20. The communication system set forth in claim 16, comprising at least one antenna for transmitting communication signals to and receiving communication signals from the plurality of receivers.

21. The communication system set forth in claim 16, wherein the communication system comprises a cellular telephone base station.

22. The communication system set forth in claim 16, wherein the communication system comprises a code division multiple access (CDMA) cellular telephone base station.

23. The communication system set forth in claim 16, wherein the means for assigning system resources prioritizes the plurality of receivers based on at least one scheduling priority metric prior to assigning resources from the group of shared system resources.